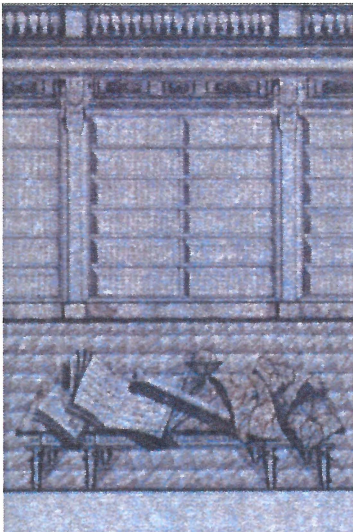


UNIVERSITY LIBRARY OF BERNE

Special exhibition: July 10, 2007

**Cartography over the last 1200 years:  
Treasures of the Burghers' Library of Berne  
and the University Library of Berne**

**Treasures of the University Library of Berne**



22nd International Conference  
on the History of Cartography  
Berne, July 8–13, 2007

### Cover illustration

Detail of the working plan for the stuccowork by Lorenz Schmid in the Library Hall at the Central Library, 1792 (Location: Burghers' Library Berne).

Access to maps, globes and measuring instruments was also included in the plans for the Library Hall.

## Library Hall

The decisive breakthrough leading to the conversion of the Central Library came in 1784. By virtue of his post [Stiftschaffner], Johann Friedrich von Ryhiner (1732–1803) oversaw the Hohe Schule (the forerunner of Berne University) and the Library. The Library was equipped with an anteroom (today the Hallersaal at the Burghers' Library) and a Library Hall (today the Schultheissen Room at the Central Library), which was ready for use in 1794. The portraits of former Schultheissen or mayors, which gave the room its name, were not transferred to the Library until 1857. The Library Hall in Berne, which is of the type known as a gallery library, has a restrained elegance on account of its narrow width and the lighting from both sides.

The ceiling painting by Ignaz Franz Keil (ca. 1744–1814), dated 1789, shows the coronation of Minerva by Apollo. The seven liberal arts are gathered on Mount Parnassus: astronomy (Ptolemy), music (Tubal-Cain), geometry (Euclid), arithmetic (Pythagoras), rhetoric (Cicero), dialectics (Aristotle) and grammar (Priscian). Above, we see Pegasus taking wing.

*[Tables 1–4]*

**The Ryhiner Collection**

In 1867 the composite atlas privately compiled by the Bernese statesman and geographer Johann Friedrich von Ryhiner (1732–1803) was donated to the City Library of Berne as a gift. The Ryhiner Collection counts as one of the most valuable and most important map collections in the world. It comprises approximately 16,000 maps, plans and topographical views from the 16th to the early 19th century; stocks cover the entire globe as well as all the important production centres. Between 1992 and 1998, in a project aimed at making the collection more generally accessible, the collection was carto-bibliographically indexed, restored and micro-filmed. The printed four-volume catalogue was published in 2003. Between 2002 and 2007 all the micro-films were scanned and put on the Internet.

*[Tables 1–2]*

Nova orbis terrarum geographica ac hydrogr. Tabula : ex optimis in hoc opere auctorib[us] desumpta / auct. Gul. Ianssonio

1 map on 4 sheets : engraving ; 84 x 108 cm

[Amsterdam] : excudebat Gulielmus Ianssonius alcmarianus, anno à chronato 1607

UB Bern ZB, Ryhiner Collection: Ryh 1101 : 61–64

The first edition of the large world map by Willem Janszoon Blaeu was published in 1607. The editor of the journal "Speculum Orbis", Peter H. Meurer, wrote in 1987: "Experts first became aware of this collection in 1980, when Günther Schilder found there the first edition of Blaeu's large world map from 1607. In their entirety, the maps and plans stored in Berne dumbfound every individual researcher. From the point of view of its extent and contents, the Ryhiner Collection is absolutely equal to comparable, albeit world-famous, collections such as the Stosch Atlas at the Austrian National Library or the Moll Collection at the Central Library, Brno University. [...]."

*[Table 3]*

Theatrum oder Schawplatz des Erdbodems : warin die Landttafell der gantzen Weldt, mit sambt aine der selben kurtze Erklarung zu sehen ist : ihietz mitt vielen neuwen Landttafflen gemehret / durch Abrahamum Ortelium

[Antwerp] : [Gillis Coppens van Diest], 1573

1 sheet : engraving ; 42 x 30 cm

UB Bern ZB, Ryhiner Collection: Ryh 8801 : 1

The title page, dated 1573, comes from the German edition of the "Theatrum Orbis Terrarum" by Abraham Ortelius, which was first published in a Latin edition in 1570. The title cartouche symbolizes the four European continents: Europe (above), Asia (left), Africa (right), America (below left). The only part of the terra incognita known at the time was Tierra del Fuego (below right). The composite volume contains further title pages. In keeping with systematic criteria and classified according to regions, the map sheets were placed by the collector in the relevant volume of his over 500-volume composite atlas. It is almost completely preserved in its original form with the exception of the Swiss maps removed at the beginning of the 20th century and mixed up with maps from other provenances. This confusion has since been rectified.

*[Table 4]*

Typvs orbis terrarvm : cum privilegio / Franciscus Hogenbergus sculpsit  
[Antwerp] : [Gillis Coppens van Diest], [published 1573]

1 map : engraving ; 34 x 50 cm

In: "Theatrum oder Schawplatz des Erdbodems / durch Abrahamum  
Ortelium" (Antwerp, 1573)

UB Bern ZB, Ryhiner Collection: Ryh 1101 : 12

The world map also originates from the German edition of the "Theatrum Orbis Terrarum" by Abraham Ortelius and is pasted into the twelfth fold. The composite atlas "Globus Terrestris I" contains a total of 39 world maps from the years 1573–1778. At the front of each volume Ryhiner included an overview according to fold numbers. In doing so, the collector left space for additions at the front and the back. He was aware of the practice of listing titles in pencil: these were desiderata which it was hoped to add to the Collection one day.

*[Tables 5–6]*

**Map incunabula**

The University Library has a valuable stock of incunabula and early map printings. Early prints of maps before 1501 are described as map incunabula and appeared as woodcuts or copper engravings. Map incunabula were published as separate illustrations, as book supplements and as independent atlases, as for example Ptolemy's printed editions.

*[Table 5]*

[Etymologiae] / [Isidorus Hispalensis]

[Augsburg] : [Günther Zainer], [1472]

UB Bern ZB, Inc III 52

The first printed map of the world appeared in Augsburg in 1472 in an edition of the "Etymologiae" by Isidor von Sevilla. In line with the medieval concept of the world, the schematic disc-shaped or TO map shows the areas settled by the descendants of the three sons of Noah, Sem in Asia, Ham in Africa and Japhet in Europe. The text of the incunabulum is set in a beautiful Antiqua typeface. It belonged to the Bernese town doctor Barbatus, who practised in the second half of the 15th century. The map came to the former City Library via medical as well as astronomical-astrological text books.

*[Table 6]*

Ptolemaeus, Claudius

Cosmographia / transl. by Jacobus Angelus, ed. by Nicolaus Germanus

Ulm : Lienhart Holl, 1482

UB Bern ZB, Hosp. 2

The first edition of Ptolemy's "Geography" to be published north of the Alps used the Antiqua typeface, expressly created for this purpose by the early printer Lienhard Holl. In contrast to the customary Ptolemaic tradition with 26 maps, Holl's edition contains five additional contemporary maps of Spain, France, Italy, Palestine and a map of Scandinavia by the Danish geographer Claudius Clavus. The copy at the Central Library in Berne is printed on parchment and very beautifully coloured. It belonged to the theologian Leonhard Hospinian (1505–1564). On Hospinian's death his library passed to his son-in-law Johannes Fädmingen (ca. 1520–1586), who bequeathed his collection to the Library of the Hohe Schule.

### *[Tables 7–10]*

#### **Spatial representation of Bernese State territory**

Maps of Berne expressed the self-confidence of the Bernese: they portrayed Berne's political and confessional independence. The State, later Canton, of Berne stretched from Lake Geneva to the River Reuss. The maps were intended to display Berne's status but were also used by the regional administrations and may thus be regarded as instruments of political dominion. Compared to single maps produced in Berne itself (Thomas Schöpf [1520–1577], Joseph Plepp [1595–1642], Albrecht Zollinger [1630–1694]), map sheets in atlases achieved a much wider circulation. Thomas Schöpf's map was mainly used as the primary source for the spatial representation of Bernese State territory.



*[Table 7]*

Inclitæ Bernatum urbis, cum omni ditionis suæ agro et provinciis  
delineatio chorographica : secundum civisque loci iustitiam  
longitudinem et latitudinem coeli : gratia privilegioque cæsareo /  
avthore Thoma Schepfio Bris doctore medico ; Bernæ Nutionum  
pingebant, et exæsis typis æneis exculpebant, Martinus Krumm  
Bernensis et Johannes Martin Dauentriensis, ambo pictores ; adiuvante  
Adelbergo Sauracker ciue Basiliensi verò cura Bernhardi Jobini  
Ca. 1:85,000—ca. 1:115,000

Basel : Adelbert Saueracher 1578 ; Strasbourg : Bernhard Jobin  
1 map on 18 sheets : engraving ; each 46 x 65 cm

UB Bern ZB, Ryhiner Collection: Ryh 3211 : 6 (= sheet 1 and sheet 2  
[with title cartouche]); Ryh 3211 : 10 (= sheet 9 and 10 [Bern, Freiburg])

The great achievement of the town doctor Thomas Schöpf in 1578 with the publication of the first large map depicting the State of Berne remained unsurpassed until the 18th century. The 18-sheet wall map was supported by the Bernese authorities but was not produced at their request. Schöpf enjoyed his hobby, which enabled him to combine business and pleasure. Schöpf's assumption was that the maps would show God-fearing folk throughout the world how large Berne was, a State which granted protection to the Church and asylum to large numbers of the persecuted. These pious citizens would then remember the State in their prayers and thus guarantee its preservation. He also believed that the map would be useful for administrative purposes: the authorities could rule best if they knew their territory and the living conditions of their subjects.

*[Table 8]*

Noua et compendiosa inclýtæ vrbis et agri Bernensis descriptio  
geographica

Ca. 1:350,000

[Berne] : [Joseph Plepp], a.o 1638

1 map : engraving ; 38 x 55 cm

Town view (bottom right): "Bern"

UB Bern ZB, Ryhiner Collection: Ryh 3211 : 24

Joseph Plepp published a considerably reduced and simplified edition of Thomas Schöpf's map, retaining the southern orientation. As a painter, land surveyor and architect, Plepp possessed the skills and understanding required by the demanding project of reducing Schöpf's wall map comprising 18 copper engravings to the size of customary maps. As he took over around 90 per cent of the names, there is a greater density of labels in Plepp's edition. The representation of mountains and hills, executed in the customary cavalier perspective, was however much simplified. Nevertheless, certain mountain views, such as the Jungfrau, Eiger and Schreckhorn, were quite faithfully reproduced in the reduced version.

*[Table 9]*

Nova ditionis Bernensis tabula geographica ursi effigie delineata /  
I. Störcklein sculp. Basil.

Ca. 1:800,000

[Basel] : [s.n.], [ca. 1700]

1 map : engraving ; 23 x 33 cm

UB Bern ZB, Ryhiner Collection: Ryh 3211 : 25 A

The map showing the territory of the State of Berne in the shape of a reclining bear by François-Louis Boisot (or Boizot) was produced ca. 1690 as an example of baroque playfulness. The title "Ursus Nujthonicus" literally means "the Üechtland bear". The map was engraved by Jakob Störcklein; it was published for the first time in Basel ca. 1690 and was subsequently reprinted several times. The accompanying text in Latin (above left) on the map expresses in words the aim of the picture: "On this copper engraving the bear spreads out his territory, overshadowed by the figure of the Eternal Father looking down from Heaven. From here the animals should quickly get out of the way, the bear keeps watch over this territory. The fear that the bear arouses in his enemies should be greater than their envy, the bear should represent the just fame of the Swiss land".

*[Table 10]*

Mappa geographica illustris Helvetiorum reipublicæ Bernensis : cum adjacentibus pagorum et dynastiarum confiniis accurate delineata / à Matth. Seuttero, geogr. cæsar. ; A. C. Seutter delin. ; T. C. Lotter sculps. Ca. 1:420,000

Augsburg : Matthäus Seutter, [ca. 1740]

1 map : engraving ; 47 x 55 cm

UB Bern ZB, Ryhiner Collection: Ryh 3211 : 28

This map of Berne at the scale of ca. 1:420,000, which was contained in the atlases of the Augsburger publisher Matthäus Seutter (1678–1757), was drawn by Albrecht Carl Seutter (1722–1762) and engraved on copper by Tobias Conrad Lotter (1717–1777). The State of Berne is embodied by a seated “Berna”. This map is based on the contours developed by Hans Conrad Gyger (1599–1674) – Johann Jakob Scheuchzer (1672–1733) and presupposes Scheuchzer’s map of Switzerland (1712).

*[Tables 11–12]*

**Samuel Engel: The Northeast Passage**

The Bernese economist and geographer Samuel Engel (1702–1784) worked from 1736 to 1748 as chief librarian of the City Library, Berne and from 1748 to 1754 as Landvogt or bailiff in Aarberg. He made a comprehensive study of the question as to whether Russia and America were separated by a land bridge, a hypothesis which he finally rejected. He based his research in particular on maps, which he appraised critically. Samuel Engel rejected the widespread belief that the sea in the Far North was not navigable by ship. His proposal was to set off from a point between Spitzbergen and Nowaja Semlja in June, keeping approximately to the eightieth parallel of latitude. According to his calculations, in good weather the sea channel between Asia and America should be reached towards the end of July. The possibility of a northeast passage for maritime traffic was finally confirmed in the 19th century. In 1878/1879 the Swede Nils Adolf Erik Nordenskjöld (1832–1901), a map collector like Johann Friedrich von Ryhiner (1732–1803), succeeded in traversing the Northeast Passage.

*[Table 11]*

Carte de la partie septentrionale et orientale de l'Asie, qui comprend la grande Tartarie, le Kamschatka et Jesso avec la mer glaciale et ses côtes / dressée en 1764 par Mr. \*\*\* [i.e. Samuel Engel] ; Jaquier del. ; Chovin sculp.

Lausanne : Antoine Chapuis, 1764

1 map : engraving ; 47 x 68 cm

Accompanying map to "Mémoires et observations géographiques et critiques sur la situation des pays septentrionaux de l'Asie et de l'Amérique" by Samuel Engel

Lausanne : Antoine Chapuis, 1765

UB Bern ZB, Ryhiner Collection: Ryh 1301 : 4

The map of Asia was designed by Samuel Engel, drawn by M. Jaquier and engraved on copper by Jacques-Antony Chovin (1720–1776). Engel's map of Asia (1764), which he modestly signed "\*\*\*\*", appeared as a map supplement in the French and German editions of his book "Mémoires et observations géographiques et critiques sur la situation des pays septentrionaux de l'Asie et de l'Amérique" (1765 ff.).

Engel dealt intensively with the question of the Northeast Passage. In order to access this seaway, knowledge of the coast and the dimension of Asia was necessary. He repeated his earlier expressed theory that the information coming from Russia according to which the eastern tip of Asia reached at least the 205th degree of longitude was incorrect. In his book Engel claimed that the eastern cape of the continent reached a maximum longitude of up to 176 ½ degrees east and thus lay almost 30 degrees further west than shown in the publications of Gerhard Friedrich Müller (1705–1783) or on his 1754 map of Asia.

*[Table 12]*

Carte des parties Nord et Est de L'Asie : qui comprend les côtes de la Russie asiatique, le Kamschatka, le Jesso, et les isles du Japon / dressée en 1764 par M\*\*\* [i.e. Samuel Engel]

Nouvelle édition réduite par M. de Vaugondy

Ca. 1:25,000,000

[Paris], 1772

1 map : engraving ; 28 x 35 cm

Includes 4 insets

In: Denis Diderot's Encyclopédie; ou, Dictionnaire raisonné des sciences. Supplement, vol. 3 (Paris, 1779).

UB Bern ZB, Lexica 20, Pl. 12

The Bernese contribution to the Northeast Passage enriched scientific discussion. Didier Robert de Vaugondy (1723–1786) took up Engel's suggestions and in 1768 published his own contribution, in which he likewise shortened the north-eastern part of Asia in comparison with the version shown on Russian maps, however by ten degrees of longitude less than the Bernese scholar. Engel and Robert de Vaugondy began to collaborate scientifically, whereby the Bernese now deviated somewhat from his extreme shortening of Asia. Owing to the high regard in which he was held, Samuel Engel was invited to collaborate on the supplementary volumes of the encyclopaedia by Denis Diderot (1712–1784) and Jean le Rond d'Alembert (1717–1783). Among other articles, he wrote the detailed contributions "Asie septentrionale" and "Passage par le Nord". As a cartographical addition, two of Engel and Robert de Vaugondy's jointly-produced draft maps were also included in the "Encyclopédie". In a memorandum which appeared in 1774, Robert de Vaugondy provided a further modification of Asia's longitudinal dimension.

### *[Tables 13–14]*

#### **John Webber: The Third South Sea Expedition**

The Bernese artist John Webber [Johann Wäber] (1751–1793) took part in the Third South Sea expedition of Captain James Cook (1776–1780). He documented the voyage of discovery in the form of a pictorial reportage. The purpose of the voyage was to find the Northwest Passage and it succeeded in definitely identifying the separation between the continents of Asia and America. The research results also essentially confirmed the Russian findings with regard to the longitudinal dimension of Asia. Thus the theories of Samuel Engel and Didier Robert de Vaugondy were finally refuted.

Webber also enriched the ethnographical collection, which was at that time housed in Berne's City Library. This made the library itself into a destination for visitors: in 1796 a reference was made in a travel guide to the rarities from the Sandwich Islands [Hawaii], which Webber brought back from Cook's last world voyage.

#### **[Table 13]**

[Vol I:] A Voyage to the Pacific Ocean undertaken ... for making discoveries in the northern hemisphere ... performed under the direction of Capt. Cook, Clerke and Gore ... 1776–80 / Vol. 1 & 2 written by J.

Cook, vol. 3 by J. King

London, 1784. – 3 vols., 1 plates volume

UB Bern, ZB, Geogr. IX 3 (I)

During the voyage of discovery in the Pacific John Webber also executed drawings and paintings. Sixty-four pictures were engraved on copper and published as a folio of plates to accompany the three-volume book "A Voyage of the Pacific Ocean" in 1784. The work, which Webber handed over to the Bernese Government, today belongs to the stocks of the Central Library at the University Library Berne. The three-volume work as well as the folio are bound in leather and embossed with the Bernese State coat of arms.



*[Table 13]*

[Vol. II:] Views on the West Coast of America / J. Webber del.

9 views : engraving ; 30 x 49 cm

Includes 9 coast views: View when Table Hill bore E b. N 1/2 N. / W. Bligh del. – View when Mount Edgcumbe bore N.W. b. N. & leas. distt. / W. Bligh del. – View of the entrance of Nootka Sound ... – View of Mount Edgcumbe ... – View when Mount St. Elias bore N.W. b W. 20 leas / W. Bligh del. – View of Kaye's Island ... / W. Bligh del. – View of Kayes Islands ... / J. Webber del. – View of the land in Prince William's Sound ...

Numeration (top right): "86."

UB Bern, ZB, Geogr. IX 3 (II)

On James Cook's third voyage of discovery, the Bernese artist John Webber also reached the Alaskan coast. Beforehand, James Cook had dropped anchor for a one-month stay in Nootka Sound in order to overhaul the ships. Subsequently, they sailed northwards in search of the Northwest Passage, dropping anchor in Prince William Sound from 12th to 18th May 1778. The Bernese artist John Webber made a substantial contribution to the documentation of Cook's third circumnavigation of the globe. On this voyage of discovery he produced drawings and paintings, which were subsequently engraved on copper; the resulting plates were attached to the three-volume voyage book in a handsome folio.

*[Table 13]*

[Vol. III:] Views on the coast of Kamtschatka

3 views : engraving ; 30 x 46 cm

Includes 3 coast views: Entrance of Awatska / Wm. Bligh del. – Entrance of Awatska Bay. – View in the entrance of Awatska Bay when the light-house on North Head bore S.E. b S. distant 2 miles. J[ohn] W[ebber] del. UB Bern, ZB, Geogr. IX 3 (III)

The search for the Northwest Passage failed in 1778 on account of the pack-ice. Following James Cook's violent death on Hawaii, Lieutenant Charles Clerke took over the command of the expedition. From the Russia port of departure Petropavlovsk, or St Peter and St Paul, in Kamchatka, they set off once more from Awatska Bay in the search of the Northwest Passage but had to give up at 70° 33' N again because of the pack-ice, which seemed much thicker than in the previous year. The expedition had no choice but to return without success to Kamchatka, where Clerke died of tuberculosis just off the coast.

*[Table 14]*

Chart of the NW coast of America and NE coast of Asia explored in the years 1778 & 1779 : the unshaded parts of the coast of Asia are taken from a MS chart received from the Russians. Writing Engrav'd by T. Harmar

Ca. 1:9,000,000

1 map : engraving ; 39 x 67 cm

Numeration (top right): "36"

In: A Voyage to the Pacific Ocean undertaken ... for making discoveries in the northern hemisphere ... performed under the direction of Capt. Cook, Clerke and Gore ... 1776–80 / Vol. 1 & 2 written by J. Cook, vol. 3 by J. King

London, 1784

3 vols., 1 plates volume

UB Bern, ZB, Kp I 38 [plates volume]

After the stay of one month at Nootka Sound, the expedition sailed northwards along the coast, passed between the Aleutian Islands, entered the Bering Strait, until in the search for the Northwest Passage, it was forced to give up at 70° 44' N due to the pack-ice. Cook reached Asia and sailing eastwards, the expedition arrived at the most easterly point on the Siberian coast before returning to the Aleutian Islands again. Thus the separation between the continents had been definitively confirmed. Already in July 1780 a first draft map showing Cook's discoveries was published in the "London Magazine". When in 1784 the official report of the voyage was published, the last doubters finally had to accept that Cook had essentially confirmed the Russian findings with regard to the longitudinal dimension of Asia.

### *[Tables 15–18]*

#### **The path to the modern map**

In the 18th century, with the exception of the final years, Switzerland did not go beyond initial attempts at new surveying methods or cartography. In 1754, when Micheli du Crest (1690–1766) proposed to the State of Berne and the Federal Diet the creation of a trigonometrically-based map of Switzerland, they turned a deaf ear to his request. The first scientific base measurements were conducted by Johann Georg Tralles (1763–1822) near Thun in 1788, near Aarau in 1791 and at Grossen Moos in 1791 and 1797. The first newly-surveyed and uniform map of Switzerland was finally the “Atlas Suisse” (1796–1802), commissioned by Johann Rudolf Meyer (1739–1813) from Aarau.

*[Table 15]*

Prospect geometrique des montagnes neigées, dittes Gletscher, telles qu'on les découvre en tems favorable : depuis le chateau d'Arbourg, dans les territoires des Grisons du canton d'Vry, et de l'Oberland du canton Berne / fait au chat.au d'Arbourg en janv.r 1755 par l'auteur [i. e. J. B. Micheli du Crest] de la methode d'un therm.e vniversel 3.e correction ; gravé par Tob. Conr. Lotter, à Augsbourg  
[S.l.] : [s.n.], 1755

1 view : engraving ; 20 x 65 cm

Explanation: "Memoire pour l'explication du prospect des montagnes neigées que l'on voit du château d'Arbourg" (4 p. ; 26 cm)

UB Bern, ZB, Ryhiner Collection: Ryh 3209 : 16 A [view] and 16 B [explanation]

This view of the Alps drawn in 1754 by the Genevois Micheli du Crest, who spent his last 20 years as a political prisoner in the fortress of Aarburg, was engraved on copper and published in Augsburg in 1755. The work is regarded as the first scientific Alpine panorama. During his imprisonment, Micheli was not able to use any scientific instruments such as an octant or even a telescope. He had to make do with the simplest means. It can be proved that, with his almost primitive-sounding methods for the calculation of heights, Micheli would have come relatively close to the values considered valid today if he had firstly known the correct distances to the mountain peaks and secondly, in his calculations, had not only taken into account the earth's curvature but also the bending of light due to refraction as physical dimensions.

*[Table 16]*

Plan perspectif d'une grande partie des cantons de Lucerne, d'Uri, de Schwitz, d'Under-Walden, de Zoug, et de Glaris : avec la frontiere de celui de Berne / d'apres le déssein géométrique fait par M. Pfiffer, lieutenant-général des armées du roi ; dessiné par B. A. Dunker ; gravé par Née et Masquelier

[Paris] : [Lamy], en 1777

1 bird's-eye view map : engraving ; 34 x 62 cm

In: "Tableaux topographiques, pittoresques, physiques, historiques, moraux, politiques, littéraires de la Suisse" by B. F. Zurlauben (Paris, 1777–1788)

UB Bern, ZB, Ryhiner Collection: Ryh 3209 : 11

The relief depicting the region covered by the three original Forest Cantons of Switzerland by Franz Ludwig Pfyffer (1716–1802) was produced between 1762 and 1786. It is orientated towards the southeast, approximately 3.9 x 6.6 m in size and shows a detail of Central Switzerland measuring a little less than 4100 km<sup>2</sup>, which corresponds to about one tenth of the country's surface.

Already before completion, this relief was drawn as a bird's-eye-view map by the Bernese artist Balthasar Anton Dunker (1746–1807). The sheet, dated 1777, appeared in the famous book "Tableaux topographiques, pittoresques, physiques, historiques, moraux, politiques, littéraires de la Suisse" by Beat Fidel Zurlauben (1720–1799). The cartographic representation is not labelled, as there is a supplement of the same size with the nomenclature. It is interesting to note that Dunker had worked according to Pfyffer's "geometrical drawings". In addition to the relief, Dunker must have had one of Pfyffer's original maps at his disposal. The relief was not only considered to be an outstanding topographical achievement but also a cultural one.

*[Table 17]*

Plan der Dreyecke für die Bestim[m]ung der Höhen einiger Berge des Canton Bern

Bern : im Verlage der litterarischen und typographischen Gesellschaft, 1790

1 map : engraving ; 35 x 39 cm

In: Bestimmung der Höhen der bekanntern Berge des Canton Bern / von Johann Georg Tralles

UB Bern, ZB: Nat 904

The base measurements made near Thun were used by the Bernese professor of mathematics and physics Johann Georg Tralles (1763–1822), who chiefly dealt with geodetic studies as the starting point for the calculation of the heights of the better-known mountains in the Bernese Oberland. The south-orientated triangulation map ("Plan der Dreyecke") appeared as a book supplement.

*[Table 18]*

Carte d'une partie très intéressante de la Suisse : à l'usage des voyageurs: elle renferme principalement une partie du canton de Berne et du Valais et les glaciers qui dominent les frontières d'Italie / levée et dessinée trigonométriquement et géométriquement par J. H. Weiss, aux dépens de J. R. M[eyer]

Aarau [Aarau] : [Johann Rudolf Meyer], 1796

1 map : engraving ; 66 x 47 cm

UB Bern, ZB, Ryhiner Collection: Ryh 3211 : 35

The southeast-orientated map "Carte d'une partie très intéressante de la Suisse" 1:120,000 by Johann Heinrich Weiss (1758–1826) from Strasbourg was produced in 1796 as a preliminary study for the "Atlas Suisse", which was published at his own expense by the silk ribbon manufacturer Johann Rudolf Meyer (1739–1813) from Aarau. The region illustrated is the same as the earlier relief of the Bernese and Valaisan highlands, with which Joachim Eugen Müller (1752–1833) from Engelberg publicized the Swiss mountain region far beyond the national borders. The sheet published in advance of the "Atlas Suisse" depicts the mountains in a realistic manner. A second printing ink was used to colour the glaciers. The borderlines, in contrast, are still hand-tinted.

*[Table 19]*

**Ferdinand Rudolf Hassler: Coastal surveyor**

Ferdinand Rudolf Hassler (1770–1843) from Aarau is regarded as the Swiss pioneer of the surveying, the mapping and the mass of the USA. Hassler's work in the Canton of Berne was closely linked to that of his teacher Johann Georg Tralles (1763–1822). In 1805 Hassler emigrated to the USA. From 1807–18 and 1832–43 he was entrusted with the task of surveying America's coastline, for which he received great recognition.



*[Table 19]*

Umriss von der Gegend der Standlinie bey den drey Seen im Canton Bern zur Landes-Vermessung der Schweiz / von Herrn Profess. Tralles  
Published in: Allgemeine Geographische Ephemeriden, 3. Stück, 1798  
[S.l.] : [s.n.], 1798

1 map : black and white ; 17 x 21 cm

UB Bern, ZB, J.L. 163

In September 1791 Hassler, as a private student of Professor Johann Georg Tralles, financed the survey of a base at Grossen Moos to the northwest of Berne. This base with its endpoints in Sugiez and Walperswil was foreseen as the basis of longitude for future surveys of the Canton of Berne and subsequently of the whole of Switzerland. In 1797 the survey was repeated with 7.8 m-long iron bars. Tralles was able to convince the Economic Society of Berne of the need to compile an exact map of the Canton. In 1792 a large theodolite was ordered from Jesse Ramsden (1735–1800) in London; however, it was not delivered until 1797. Although no map was produced, considerable preliminary work had been achieved.

*[Table 19]*

A Diagram of the Triangulation for the Survey of the Coast of the United States, made in 1817 and 1833, and the Secondary Triangles made in 1833 & 1834 in Connecticut & upon Long Island

[S.l.] : [s.n.], 1834. – 1 map : black and white ; 37 x 50 cm

In: F. R. Hassler: Principal Documents relating to the survey of the United States since 1816. New York, 1834.

UB Bern, ZB: Nat I 137

Hassler's first two base lines for the survey of the American coast were established in 1816 at Cherry Hill and also in the Bay of Gravesend, near the present-day peninsula Coney Island, New York. The longest and most exact base line was established on Fire Island in 1834. The triangulation of the first, and subsequently of the second order, was connected to these base lines. From 1816 to 1818 and from 1834 to 1843, as the superintendent of the U.S. Coast Survey, Hassler headed the survey, which was supplemented by topographical and hydrographical studies.

*[Table 20]*

**Franz Niklaus König: Celestial atlas**

The Bernese Little Master Franz Niklaus König (1765–1832) worked as a painter, etcher, copper-engraver, lithographer, drawing teacher and writer. His time in the Bernese Oberland (1797–1809) was the most productive phase of his artistic life. His efforts were devoted to handicrafts which were aimed at the tourist market. His significance to art lies in the development of landscape painting. König also endeavoured to promote the tourist trade. In 1805 and 1808 he belonged to the organizing committee of the newly-founded Alpine folklore festival at Unspunnen. In 1809 financial reasons forced him to return to Berne. He worked as a teacher and produced over 100 transparent pictures, which he put on show in front of a candle and with which he travelled both in Switzerland and abroad.

*[Table 20]*

La Grande Ourse

"Planche 6" in: *Astrognosie oder Anleitung zur Kenntniss der Sterne*. In 28 schön gezeichneten Steindruck Tafeln mit Umrissen der Sternbilder nach Flamsteeds Himmels Atlas / in transparenter Manier gearbeitet von F.N. Koenig

Bern : Walthard, 1826

1 print : lithography ; 16 x 21 cm

UB Bern ZB, Kp IV 246, also at: [www.zb.unibe.ch/stub/koenig/](http://www.zb.unibe.ch/stub/koenig/)

The celestial atlas executed by Franz Niklaus König in 1826 comprises 27 lithographed constellations as well as an orientation chart. The constellations can be observed by reflected light, the stars themselves by transmitted light. König showed the stars from the magnitude categories 1–5 that are visible to the naked eye. The verso is covered with a thin paper. As a rule, a laterally pasted-on strip contains on the picture side the name of the constellation and at the back brief information about the contents. The celestial atlas was used to teach children, for example when taught at home by their mother or father.

*[Table 20]*

La Grande Ourse

Table 6 in: *Atlas céleste de Flamsteed, approuvé par l'Académie royale des sciences* / par M. J. Fortin. – 2nd ed.

Paris : Deschamps, 1776

1 map : engraving ; 16 x 21 cm

UB Bern ZB, Nat XII 129

As a model for his celestial atlas, the Bernese Little Master Franz Niklaus König most probably used the 2nd edition of the "Atlas céleste" by John Flamsteed (1646–1719), published in 1776 by Jean Fortin (1750–1831). The copy at the University Library previously belonged to the Bernese Professor of geology Bernhard Studer (1794–1887).

### *[Tables 21–22]*

#### **Official survey and first national map series of Switzerland**

In 1809 Quartermaster-General Hans Conrad Finsler (1765–1839) commissioned the execution of Federal trigonometrical surveys. As a result, a triangular network was laid over Central Switzerland and the Jura until 1831. In 1825 triangulation work was initiated in the Alpine region (until 1834). Since 1822 supervision over the surveys had been in the hands of the Federal Diet. In 1830 Johann Ludwig Wurstemberger (1783–1862) took over the post of Quartermaster-General. In June 1832 the fundamental decision was taken to compile the first official atlas of Switzerland, the scale of 1:100,000 being chosen as the scale for publication. The Astronomical Observatory Berne was given responsibility for the origin of the co-ordinates. On the basis of French survey documentation, the Chasseral (1609.57 m, altitude today 1607.4 m) was chosen as the starting point for the elevation measurements. From autumn 1832 Guillaume-Henri Dufour (1787–1875) held the post of Quartermaster-General and Head of Topographical Surveys.

*[Table 21]*

Dufour : [1780–1875] / Sambal Oelek [i.e. Andreas Müller]

Zürich : Verlag bbb Edition Moderne, cop. 1998

56 p. : Ill. ; 32 cm

UB Bern, ZB: RAC 533

Under the pseudonym Sambal Oelek, the ETH-trained architect Andreas Müller wrote the texts and drew the illustrations for a scientific comic album about Guillaume-Henri Dufour. In one scene he shows a meeting of the Kommission für Landesaufnahme (Committee for Land Surveys), which convened for the first time from 4th to 9th June 1832. The Committee is shown in the Library Hall of the City Library Berne on 6th June 1832, when they met in order to elaborate a comprehensive concept for the surveying and mapping of the entire Swiss territory, including the Alps. Members of the Committee were Johann Ludwig Wurstemberger (1763–1862), Hans Conrad Finsler (1765–1839), Professor Friedrich Trechsel (1776–1849), Heinrich Pestalozzi (1790–1857), Johann Kaspar Horner (1774–1834) and Antoine-Joseph Buchwalder (1792–1883).

*[Table 21]*

Freyburg, Bern / G. H. Dufour direxit ; Müllhaupt sculpsit ; Stempelmann scripsit

1:100,000 (E 6°46'55"–E 7°42'09"/N 47°00'22"–N 46°34'22")

[Geneva] : [Eidg. Topographisches Bureau], 1860 (Genf : H. Koegel imp.)

1 map : engraving ; 48 x 70 cm

(Topographische Karte der Schweiz ; Bl. 12)

UB Bern, ZB: no call number

The topographical map of Switzerland 1:100,000, also known as the "Dufour Map", was published in the years 1845–1865 as the first official atlas produced by the Eidgenössischen Topographischen Bureau (Federal Topographical Bureau) under Guillaume-Henri Dufour. The map is based on surveys of the cantons and the Swiss Confederation. The territory of Switzerland was distributed over 25 sheets, each measuring 48 x 70 cm. The map was repeatedly updated until 1939. Luminated hachures with northwest lighting were chosen for the manner of representation. In 1855 the Dufour Map won a gold medal at the World Exhibition in Paris; this was followed by numerous further awards. Owing to its ideal level of generalization, the harmony of the linear elements and the lettering, the velvety softness of the copper prints and above all the representation of the terrain, which was the best result that could be achieved in black and white, the Dufour Map was described on publication as "the most outstanding map in the world" (August Petermann, 1864).

*[Table 22]*

Kirchlindach / [mapping:] Stengel, Lutz ; gest. v. H. Müllhaupt u. Sohn

1:25,000 (E 7°21'27"–E 7°28'21"/N 47°00'23"–N 46°57'09")

[Berne] : Eidg. Stabsbureau, 1870

1 map : col. ; 24 x 35 cm

(Topographischer Atlas der Schweiz ; Bl. 317)

UB Bern, ZB: Kart III 128

[www.zb.unibe.ch/maps/ta](http://www.zb.unibe.ch/maps/ta)

*[Table 22]*

Bern / [mapping:] Stengel, Lutz, Froté ; gest. v. H. Müllhaupt u. Sohn  
1:25,000 (E 7°21'27"–E 7°28'21"/N 46°57'09"–N 46°53'54")

[Berne] : Eidg. Stabsbureau, 1870

1 map : col. ; 24 x 35 cm

(Topographischer Atlas der Schweiz ; Bl. 319)

UB Bern, ZB: Kart III 128

[www.zb.unibe.ch/maps/ta](http://www.zb.unibe.ch/maps/ta)

In 1865, after the "Dufour Map" had been completed at the scale 1:100,000, there were calls for the publication of the original topographical surveys. In 1865, the Federal Topographical Bureau was transferred from Geneva to Berne, with Hermann Siegfried (1819–1879) taking over Dufour's post in 1866. From 1870 onwards the "Topographische Atlas" of Switzerland was produced under his supervision and also became known as the "Siegfried Map". The publication of the 604 sheets of the atlas began in 1870. The uniform size of the map face was 24 x 35 cm. The atlas appeared at the scale 1:25,000 for the Jura, Central Switzerland and South Ticino as well as 1:50,000 for the Alpine region. The first editions were published in the years 1870 to 1926. Until 1949 all the sheets were submitted to numerous updates and partly also to revisions, so that ca. 4000 different editions (without the unaltered reprints) can be identified. The atlas was produced by two different techniques: copper engraving for the 462 sheets at the scale 1:25,000 and lithographic printing for the 142 sheets 1:50,000. Owing to the small format of some sheets, a large number of composite sheets were published as lithographic transfer prints, partly with hill shading.

### *[Tables 23–24]*

#### **Peter Sager and the Rossica Europeana Collection**

The collection built up since the Second World War by Dr Peter Sager (1925–2006) deals with the perception of Russia in Western printed matter, maps and prints from the 16th to the 19th century. It is considered worldwide to be one of the most important thematic collections of its kind. In 2005 the Swiss Library of Eastern Europe purchased this private library belonging to its founder with the financial help of third parties in order to preserve it for posterity.

According to the European perception of the world in the 16th century, Muscovy, like America, Asia or Africa, belonged to the group of the newly-discovered or exotic regions of the world. The maps on display show the development of geographical knowledge about Russia after its "rediscovery" at the beginning of the 16th century.

### *[Table 23]*

Tabv . Mo. Gron. Landie et Rvsie.

Diefert sitvs orbis hydrographorvm ab eo qvem Ptolomevs posvit.

1 map : woodcut ; 28 x 45 cm

In: Clavdii Ptolemaei, Alexandrini Mathematicor[um] principis. opus Geographie ...

[Strasbourg], 1522

UB Bern SOB, Rossica Europeana Collection

In the Renaissance era geographical knowledge about Russia was still rooted in antique conceptions based on Ptolemy's theories. Maciej z Miechowa and Sigismund von Herberstein were the first to correct this geographical notion with their treatises published in the first half of the 16th century. On the basis of the Antique conception, Russia or Muscovy, represented on the map by the "imperator russie", was considered to be an empire in the Far North, at a great remove from Europe. The geographical location of Russia was believed to be in the north and not in the east until well into the 19th century.



*[Table 23]*

Evropae tabula octaua continet Sarmatiam Europae, & Tauricam  
Chersonesum

1 map : woodcut ; 28 x 45 cm

In: Clavdii Ptolemaei Alexan=drini geographicae enarrationis, libri  
octo ...

Wien : Gaspar Trechsel, 1541

UB Bern SOB, Rossica Europeana Collection

In the 16th century Eastern Europe was divided into "European" and "Asian Sarmatia". After the Antique era scholars presumed, before the time of the first reports on Russia, that there was only a small isthmus between the Arctic Ocean and the Sea of Azov, which was much greater in reality than they imagined. Furthermore, together with other rivers, the Tanais (Don) seemed to intersect this land bridge. It was therefore thought that the supposed water border separated the Eurasian land mass into a European and Asian continent while in reality it connects them. A further (false) element of contemporary geographical knowledge were the Rhipic and Hyperboreic mountains to the north of the Sea of Azov.

*[Table 23]*

Moscouia / Sigmunds Freyherrns zu Herberstain Neyperg und Guetenhag

Wien : Zimmermann, 1557

1 map : woodcut ; 24 x 33 cm

Accompanying map to: Herberstein, Sigismund von

Moscovia der Hauptstat in Reissen ...

Wien : Zimmermann, 1557

UB Bern SOB, Rossica Europeana Collection

Sigismund von Herberstein's report was based on the experiences of two missions in the service of the Emperor (1516–1518 and 1526/27). It became one of the most influential treatises on Muscovy. In the 16th century alone, more than twenty editions were published, first in Latin (1549), then in Italian, German, English and Polish. Worldwide there are only two known complete copies of the German edition, which also comprise the enclosed printed map of Russia. The collector Peter Sager wrote a commentary to this map; it was published by the author and handed over in December 1970 to the patrons, friends and colleagues at the Swiss Eastern Institute.

*[Table 24]*

Russiae, Moscoviae et Tartariae descriptio / auctore Antonio  
Ienkensono Anglo edita Londini 1562 & dedicata illustriss D. Henrico  
Sydneyo Wallie presidi

1 map : engraving ; 36 x 43 cm

In: Ortelius, Abraham

Theatrum Orbis Terrarum

[first publ. Antwerp, 1570]

UB Bern SOB, Rossica Europeana Collection

Anthony Jenkinson (1525–1611) travelled through Russia and overland to Persia in 1557–1559 and 1561–1563 as a commercial agent of the English Muscovy Company, founded in 1555. His map was printed for the first time in 1562 and the original manuscript has only recently been rediscovered. It served as a model for maps of Russia in the atlas produced by Ortelius. On the map the regions in the east and northeast of Russia are inhabited by mythical figures and peoples – the expression of current lack of knowledge about that part of the world.

*[Table 24]*

Tartaria

1 map : engraving ; 32 x 47 cm

In: Gerardi Mercatoris atlas sive cosmographicae meditationes de fabrica mvndi et fabricati figvra

[Amsterdam] : [Jodocus Hondius], [first publ. 1606]

UB Bern SOB, Rossica Europeana Collection

The map shows Siberia and the central parts of Asia as far as the Pacific Ocean under the designation "Tartary". These are areas which before the Russian conquest were controlled by various Tatar khanates – seigniorial formations in the aftermath of the extensive medieval Mongol Empire. One of the interesting features is the border drawn between Europe and Asia: it runs slightly east of Moscow, far to the west of the Urals although the khanates of Kazan and Astrakhan had already been conquered by Russia in the 1550s. The map thus shows that the border between Europe and Asia was not defined "objectively" from a geographical or territorial point of view but from a cultural perspective.

### *[Table 25]*

#### **Bernese catalogues**

Gottlieb Emanuel von Haller (1735–1786), son of the polymath Albrecht von Haller (1708–1777), was the first to make a systematic bibliography of the maps of Switzerland. In addition to his handwritten 23-volume map catalogue, the statesman and geographer Johann Friedrich von Ryhiner (1732–1803) produced a 25-volume map bibliography, with which he furnished proof of the known maps of the whole world. A further exemplary achievement was the 1960 map and plan catalogue of the Canton of Berne by Georges Grosjean (1921–2001), with which nothing in Switzerland can be compared. And with the publication of the catalogue on the Ryhiner Collection, an important concern of the carto-bibliographical research has been realized. The catalogue provides guided access to one of the most important sources of geographical knowledge.

### *[Table 25]*

Bibliothek der Schweizergeschichte und aller Theile, so dahin Bezug haben : systematisch-chronologisch geordnet / Gottlieb Emanuel von Haller

Bern : in der Hallerschen Buchhandlung : gedruckt bey Rudolf Albrecht Haller, 1785–1788 ; 7 vols. ; 21 cm

UB Bern, ZB: Rar alt 195 : 1

In 1766 Gottlieb Emanuel von Haller had already compiled a "Verzeichnis derjenigen Landkarten, welche über Helvetien und dessen verschiedenen Theile verfertigt worden sind" (an index of those maps which have been produced on Helvetia and its various parts). This bibliography was published in 1771 by Anton Friedrich Büsching in his journal. An updated version of the bibliography appeared in 1785 in the first of the seven volumes of the "Bibliothek der Schweizergeschichte" (Bibliography of Swiss History).

*[Table 25]*

Mundus Universalis. First volume of Johann Friedrich von Ryhiner's map bibliography comprising a total of 25 volumes.

1 manuscript volume ; 34 cm

Burgerbibliothek Bern, Mss. h.h. XLV 134.

The geographer Anton Friedrich Büsching (1724–1793) estimated the complete stock of maps at 16,000 pieces, of which only ten per cent could be attributed to any primary maps. The encyclopaedia by Krünitz (1793) already numbered the stock of maps at 18,000 with 1800 original maps. With his as yet unedited 25-volume map bibliography, Johann Friedrich von Ryhiner (1732–1803) recorded the maps known to him at the time. Ryhiner planned to compile a complete collection and was justified in believing that he had almost achieved his target. His handwritten section, comprising a 23-volume map catalogue, a 25-volume map bibliography, etc., providing access to his collection of more than 16,000 maps, plans and topographical views also comprises a two-volume index of desiderata, two volumes of inventory, an index of new acquisitions as well as an index of mapmakers.

*[Table 25]*

Kantonaler Karten- und Plankatalog Bern = Catalogue cantonal  
bernois de cartes et plans / bearb. von Georges Grosjean ; hrsg. von d.  
Kantonalen Kartographiekommission Bern

Bern : Staatl. Lehrmittelverlag, 1960

XXVI, 534 p. ; 24 cm

(Landesvermessung und Kartographie des Kantons Bern ; Tl. 2)

UB Bern, ZB: H LIII 148

The Cantonal map and plan catalogue of Berne by Georges Grosjean (1921–2001) is a complete bibliography of Bernese maps and plans as well as reproductions of original drawings stored in archives or in government offices. The location of all the objects is given. The inventory was carried out between 1952 and 1954, with additions up to 1958, by 47 field workers from the Kantonalen Kartographiekommission (Cantonal Cartographical Committee). The catalogue is organized according to subjects and made accessible by a topographical register, a register of persons and a keyword index.

*[Table 25]*

Sammlung Ryhiner : Karten, Pläne und Ansichten aus dem 16. bis 19.  
Jahrhundert = Ryhiner Collection : maps, plans and views from the 16th  
to the 19th century / hrsg. von Thomas Klöti ; Stadt- und  
Universitätsbibliothek Bern  
Bern : Stadt- und Universitätsbibliothek, 2003.  
4 vols.  
UB Bern, ZB: RAB 5295 : 1–4

The Ryhiner Collection is one of the special collections at the University Library in Berne. Carto-bibliographical access forms part of a four-and-a-half year research project, which was completed in 1998. The two-language, four-volume catalogue was published to commemorate the 200th anniversary of the death of the collector Johann Friedrich von Ryhiner (1732–1803). It contains 16,528 catalogue numbers and an index volume comprising a place and subject index, a name index, a title index and a list of the original works. The publication of the Ryhiner Collection offers an important resource for the research community and for lovers of maps in general.



### *[Tables 26–27]*

#### **Georges Grosjean: Bernese geographer and map historian**

From 1958 onwards Georges Grosjean (1921–2001) taught cultural and economic geography at the University of Berne. In 1963 he was appointed to a professorship in the same subjects. In 1986 he retired from his academic chair. Grosjean had a significant influence on teaching and research at the Geographical Institute at Berne University. The special field of cultural geography was steered in a strong historical direction under Grosjean. In addition to geographical papers, Grosjean frequently published studies on the history of cartography. His map and plan catalogue of the Canton of Berne (1960) were considered exemplary. He received international recognition as the editor of facsimiles, for example of the Catalan World Atlas (1375), of the Maritime Atlas by Vesconte Maggiolo (1512), the map of the Canton of Berne by Thomas Schöpf (1578) and the map covering the territory of the State of Zurich by Hans Conrad Gyger (1685). A much cited book is "Kartenkunst und Kartentechnik" (1970), which he published together with Rudolf Kinauer. He was also responsible for the conception and preparation of new maps, such as the world map "Natur – Mensch – Wirtschaft" (1977), as well as of various sheets contained in the Atlas of Switzerland.

*[Tables 26–27]*

Mapamundi / hrsg. und kommentiert von Georges Grosjean

Facsimile print

Dietikon-Zürich : Urs Graf-Verlag, 1977

95 p., 6 double leaves of plates ; 67 cm

UB Bern, ZB: PW 396

The Catalan World Atlas at the Bibliothèque Nationale dated 1375 is one of the most important works of medieval manuscript cartography. The original form comprised six parchment sheets, each of which was pasted on a wooden panel. A focal point of the edition, which was edited and provided with a commentary by Georges Grosjean, is the reproduction in facsimile. The monumental atlas, measuring 65 centimetres in height and three metres in length, was published in 1977 in its original size, in an absolutely faithful and bibliophilic facsimile edition by the publishing house of Urs Graf and made accessible to experts. The accompanying text appraises the position of the work in the history of cartography. With the transcription, translation and interpretation of the text and the nomenclature, the work has been made more generally accessible. A part of the edition appeared with an English commentary.



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